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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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IBM CORP (AP) C/O AMY PATTILLO P. O. BOX 161327 AUSTIN, TX 78716			EXAMINER NAUROT TON, JOAN	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/687,266

Applicant(s)

BANERJEE ET AL.

Examiner

Joan B. Naurot Ton

Art Unit

2145

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This second action non-final is in response to arguments filed on 9/27/2007.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 4, 5, 7, 8, 9, 11, 12, 14, 15, 16, 18, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch (US publication 2002/0138622) in view of Alkhatib et al, hereinafter referred to as Alkhatib (US publication 2004/0044778 A1)

Regarding claim 1:

Dorenbosch discloses a method (title) for accessing a data processing system behind a network address translation (NAT) enabled network, (Figure 3, step 317, which discloses "supplying content from the push client to the mobile device" for which the mobile device is behind the NAT) comprising: querying, from a client system located outside a NAT enabled network, a NAT device for an address of a NAT data processing system located behind said NAT enabled network; automatically routing said query through said NAT device to a DNS server, (P 4, paragraph 0033 starting from line 7, discloses, "In this case the...push client...initiates the session by sending a DNS query

message for the IP address corresponding to the user name of the mobile device. The DNS query message will travel through the public network 101, the NAT 107 and the private network 105 to reach the DNS server 111.") wherein said DNS server returns an address for said NAT data processing system for said NAT device and routing for said NAT device (P 4, paragraph 0033 starting from line 12 discloses "The DNS server will access its database, retrieve the mobile device's long lived address, insert the address into the DNS message body of a response DNS message and send the response DNS message to the originator of the query. On its way to the push server or client, the response DNS message will hit the NAT 107) ; and sending packets, from said client system to said NAT data processing system at said address, such that said NAT data processing system behind said NAT enabled network is directly accessed by said client system from outside said NAT enabled network. (P 4, paragraph 0033, 11 lines from bottom of paragraph discloses, "The push server or client 103 thus obtains IP address information for to the mobile device and can continue the session and send one or more IP data packets to the mobile device...") Dorenbosch discloses all the limitations as disclosed above except for sending with source routing and volatile and non volatile memory.

Alkhatib teaches source routing (paragraph 0150 line 12) through a NAT device. (Paragraph 0150 lines 24-25 discloses "data can flow between hosts A and C...through NAT....") and non-volatile and volatile memory. (Paragraph 23 discloses RAM and ROM as well as other memory means)

The general concept of providing source routing through a NAT device is well known in the art as illustrated by Alkhatib who discloses source routing through a NAT device in an accessing method, system, and product with means.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch to include the use of source routing through NAT in his advantageous method as taught by Alkhatib in order to forward "the communication to the entity inside the private" network as stated by Alkhatib in his abstract, last two lines.

Regarding claims 2:

Dorenbosch discloses the method for accessing a data processing system behind a NAT enabled network, wherein said querying a NAT device for an addresses of a NAT data processing system further comprises: receiving a user request to establish a connection with a particular domain name, wherein said domain name identifies said NAT data processing system and sending a DNS query of said domain name to said NAT device. (P 4, paragraph 0033 starting from line 6, discloses, "In this case the...push client...initiates the session by sending a DNS query message for the IP address corresponding to the user name of the mobile device. The DNS query message will travel through the public network 101, the NAT 107 and the private network 105 to reach the DNS server 111." P 4, paragraph 0033 starting from line 12 discloses "The DNS server will access its database, retrieve the mobile device's long lived address, insert the address into the DNS message body of a response DNS message and send the response DNS message to the originator of the query. On its way to the push server or client, the response DNS message will hit the NAT 107." The

DNS query goes to the NAT before reaching the DNS server as shown in the abstract diagram on the front page of the publication)

Regarding claim 4:

Dorenbosch discloses the method for accessing a data processing system behind a NAT enabled network wherein automatically routing said query through said NAT device to a DNS server, further comprises: automatically routing said query through said NAT device for handling DNS queries. (paragraph 0033 starting from line 6 and the abstract diagram on the front page of the publication shows this and this is rejected similarly to claim 1)

Dorenbosch discloses all the limitations as disclosed above except for using a pre-selected NAT port.

Alkhatib uses a pre-selected NAT port. (Paragraph 0050 last two lines, and line 5, next page same paragraph, discloses that a look up table containing the NAT port number is used for connections.)

The general concept of using a preselected port number of a NAT device is well known in the art as illustrated by Alkhatib who discloses the preselected port number of a NAT device in an accessing method, system, and product with means.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch to include the use of a preselected port number in his advantageous method as taught by Alkhatib in order to forward "the communication to the entity inside the private" network as stated by Alkhatib in his abstract, last two lines.

Regarding claims 5:

Dorenbosch discloses the method for accessing a data processing system behind a NAT enabled network wherein automatically routing said query through said NAT device to a DNS server, further comprises: automatically routing said query to said DNS server that identifies and returns to said client system private internet protocol address (p 7, lines 11, 12 disclose that the long lived address of the mobile phone behind the NAT is a private IP address.)

for said NAT data processing system comprising at least one private system located behind said NAT enabled network and routing for said NAT device. (The abstract diagram on the front page of the publication shows the IP address in a private network and paragraph 0033 starting from line 6 also discloses the query procedures and routing procedures from the DNS to NAT and vice versa.)

Dorenbosch discloses all the limitations as disclosed above except for source routing.

Alkhatib teaches source routing (paragraph 0150 line 12). (paragraph 0150 lines 24-25 discloses "data can flow between hosts A and C...through NAT....").

The general concept of providing source routing through a NAT device is well known in the art as illustrated by Alkhatib who discloses source routing through a NAT device in an accessing method, system, and product with means.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch to include the use of source routing in his advantageous method as taught by Alkhatib in order to forward "the communication to the entity inside the private" network as stated by Alkhatib in his abstract, last two lines.

Regarding claim 7:

Dorenbosch discloses the method for accessing a data processing system behind a NAT enabled network: authenticating an identity of a user at said client system; (P 9, line 17 discloses that authentication is necessary) only allowing access to said NAT data processing system if said authenticated identity of said user matches one of a plurality of authenticated users enabled to access systems behind said NAT enabled network. (P9, lines 17-30 disclose that authentication is necessary to access the mobile device which is located behind the NAT)

Regarding claim 8:

The claim limitations are substantially the same as those in claim 1, but in a system rather than method form. Therefore, the supporting rationale of the rejection to claim 1 applies equally as well to claim 8. (Abstract, "system" first line).

Regarding claim 9:

The claim limitations are substantially the same as those in claim 2, but in a system rather than method form. Therefore, the supporting rationale of the rejection to claim 2 applies equally as well to claim 9. (Abstract, "system" first line).

Regarding claim 11:

The claim limitations are substantially the same as those in claim 4, but in a system rather than method form. Therefore, the supporting rationale of the rejection to claim 4 applies equally as well to claim 11. (Abstract, "system" first line).

Regarding claim 12:

The claim limitations are substantially the same as those in claim 5, but in a system rather than method form. Therefore, the supporting rationale of the rejection to claim 5 applies equally as well to claim 12. (Abstract, "system" first line).

Regarding claim 14:

The claim limitations are substantially the same as those in claim 7, but in a system rather than method form. Therefore, the supporting rationale of the rejection to claim 7 applies equally as well to claim 14. (Abstract, "system" first line).

Regarding claim 15:

The claim limitations are substantially the same as those in claim 1, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 1 applies equally as well to claim 15. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 16:

The claim limitations are substantially the same as those in claim 2, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 2 applies equally as well to claim 16. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 18:

The claim limitations are substantially the same as those in claim 4, but in a computer program product form rather than method form. Therefore, the supporting

rationale of the rejection to claim 4 applies equally as well to claim 18. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 19:

The claim limitations are substantially the same as those in claim 5, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 5 applies equally as well to claim 19. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 21:

The claim limitations are substantially the same as those in claim 7, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 7 applies equally as well to claim 21. (abstract, a server with a database inherently has a recording medium, line 6)

5. Claims 3, 10, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch and Alkhatib, as applied to claims 1,8 and 15, and further in view of McPherson (US patent 6944167), and Dalgic et al, hereinafter referred to as Dalgic (US patent 6925076) and the Unix manual pages (<http://web.archive.org/web/20020102131755/http://www.scit.wlv.ac.uk/cgi-bin/mansec?4+resolv.conf>)

Regarding claims 3:

Dorenbosch discloses the method, system, and product with means for accessing a data processing system behind a NAT enabled network, wherein said querying a NAT device for an addresses of a NAT data processing system further comprises: sending, from said client system, a DNS query for a domain name of said NAT data processing system to a first address (Dorenbosch discloses in paragraph 0033 that the query is sent first to a NAT device) and, sending, from said client system, said DNS query to a second address (Paragraph 0033 discloses that the query is then sent to a DNS),

Dorenbosch discloses all the limitations as disclosed above except for wherein said second address is a location for said NAT device, responding to receiving a fail signal, and accessing a resolv.conf file.

McPherson discloses wherein said second address is a location for said NAT device
(Figure 1 discloses the NAT router with an address, and this is the second address the query is sent to).

The general concept of providing a second address which is a location for said NAT device is well known in the art as illustrated by McPherson who discloses a second address which is a location for said NAT device.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch to include the use of a second address being a location of a NAT device in his advantageous method as taught by McPherson in order to access an entity behind a NAT device.

Dalgic teaches receiving a fail signal and responding to the fail signal.

("Further, in some embodiments, a secondary gate controller can send a message to the edge router indicating the failure of the gate controller. The edge router can update the call state information after receiving the message..." Column 2, lines 51-53)

The general concept of responding to a fail signal is well known in the art as illustrated by Dalgic who discloses a fail signal in an H.323 system which does network address translation. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch of his NAT system, method, and medium in as taught by Dalgic in order for the edge router to "support a standard network address translation (NAT) protocol" as stated by Dalgic in Column 2, last two lines.

The Unix Manual pages teaches accessing a resolv.conf file. (According to the Unix Manual page for the resolv.conf file, "The resolver routines provide access to the Internet Domain Name System. The resolver configuration file contains information that is read by the resolver routines the first time a process calls them." First two paragraphs of the description of resolv.conf in the Unix Manual page.)

The general concept of accessing a resolv.conf file is well known in the art as illustrated by the Unix manual page which discloses reading from a resolv.conf file in a routine that helps resolve domain names. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch of his address translation method, system, medium, and product with means in his advantageous method as taught by the Unix manual page in order to "provide access to the Internet Domain Name system and provide various resolver information" as stated by the Unix

manual page in the description section of the resolv.conf page, first page, first two paragraphs.

Regarding claim 10:

The claim limitations are substantially the same as those in claim 3, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 3 applies equally as well to claim 10. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 17:

The claim limitations are substantially the same as those in claim 3, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 3 applies equally as well to claim 17. (abstract, a server with a database inherently has a recording medium, line 6)

6. Claims 6, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dorenbosch in view of Alkhatib et al, hereinafter referred to as Alkhatib (US publication 2004/0044778 A1) as applied to claims 1, 8, and 15, and further in view of Dalgic.

Regarding claim 6:

Dorenbosch discloses the method, system, and product with means for accessing a data processing system behind a NAT enabled network further comprising: returning, from said DNS server, a plurality of addresses (P2, paragraph 0019, 10 lines from the bottom disclose a plurality of mobile devices and paragraph 0033 discloses

that the mobile device address is returned by the DNS) of a plurality of parallel data processing systems to said NAT data processing system located behind said NAT enabled network (abstract diagram); and send packets to said NAT data processing system, sending packets to a first data processing system from among said plurality of parallel data processing systems at one of said plurality of addresses with routing through said NAT device (paragraph 0033 discloses that communication is realized to the mobile device behind the NAT device and routing is done through the NAT device.)

Dorenbosch discloses all the limitations as disclosed above except for responding to reception of a fail signal and source routing.

Alkhatib teaches source routing (paragraph 0150 line 12 and paragraph 0150 lines 24-25 discloses "data can flow between hosts A and C...through NAT....").

The general concept of providing source routing is well known in the art as illustrated by Alkhatib who discloses source routing in an accessing method, system, and product with means.

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch to include the use of source routing in his advantageous method as taught by Alkhatib in order to forward "the communication to the entity inside the private" network as stated by Alkhatib in his abstract, last two lines.

Dalgic teaches receiving a fail signal and responding to the fail signal. ("Further, in some embodiments, a secondary gate controller can send a message to the edge router indicating the failure of the gate controller. The edge router can update the call state information after receiving the message..." Column 2, lines 51-53)

The general concept of responding to a fail signal is well known in the art as illustrated by Dalgic who discloses a fail signal in an H.323 system which does network address translation. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify Dorenbosch of his NAT system, method, and medium in as taught by Dalgic in order for the edge router to "support a standard network address translation (NAT) protocol" as stated by Dalgic in Column 2, last two lines.

Regarding claim 13:

The claim limitations are substantially the same as those in claim 6, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 6 applies equally as well to claim 13. (abstract, a server with a database inherently has a recording medium, line 6)

Regarding claim 20:

The claim limitations are substantially the same as those in claim 6, but in a computer program product form rather than method form. Therefore, the supporting rationale of the rejection to claim 6 applies equally as well to claim 20. (abstract, a server with a database inherently has a recording medium, line 6)

Summary of arguments and response

Arguments not responded to and summarized are deemed moot in view of the new grounds of rejection under Dorenbosch as the primary reference.

Point A: Applicant argues that combining Alkhatib is not obvious.

As to point A, there is motivation to combine under the ruling of KSR in which success would be expected.

Point B: Applicant argues that the source routing is through a server and not through NAT.

As to point B. Dorenbosch teaches that the routing goes through NAT and the DNS server returns routing. Alkhatib teaches the source routing.

Point C: Applicant argues that Alkhatib does not have a pre-selected port and that the lookup table does not imply a preselected port.

As to Point C, Since Alkhatib refers to one port in the singular in his lookup table as described by applicant's quotes in paragraph 0050, the port must have been pre-selected.

In addition, on P 25, lines 21 and 22 discloses that in one embodiment each NAT device has a single IP address which would imply one port which is pre-selected.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joan B. Naurot Ton whose telephone number is 571-270-1595. The examiner can normally be reached on M-Th 9 to 6:30 (flex sched) and alt Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JBNT
12/03/2007


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